NETWORK WORKING GROUP
REQUEST FOR COMMENTS #379
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CATEGORIES:
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USING TSO AT CCN

IBM's Time Sharing Option ("TSO") is now available at CCN for use via the Network with Telnet protocol. TSO is not yet considered "production" by CCN, since there are a number of restrictions and glitches to be removed or documented. However, TSO is now quite stable and is up on a regularly scheduled basis; the system will allow an experienced programmer to work productively at CCN. To use TSO, you will need a valid CCN charge (billing) number, and a user-id. To obtain a charge number (if you do not already have one), or to obtain a TSO user-id, contact Barbara Noble at (213) 825-7438 or (213) 825-7452. At present we are not charging for TSO use (although any batch jobs submitted from TSO will be charged to your account). Barbara can assign an overhead charge number for experimental use of TSO if you do not have a paid account.

Modes of TSO Use

(1) Conversational Remote Job Entry

Using TSO you can prepare an OS job stream using the TSO EDIT command, SUBMIT the job to batch execution, monitor its STATUS, and ship the OUTPUT back to EDIT for examination. This allows those of you with TIP's to process jobs at CCN without using NETRJS via a friendly TENEX machine. Any batch job can be submitted this way.

(2) Foreground Execution

Many OS/360 programs can be run, with varying degrees of inconvenience, directly from the terminal. There are TSO commands providing the facilities of EXEC and DD cards; the output stream can be directed to the user's terminal. There are some important limitations to foreground operation, however:

(1) The foreground region size is limited; at present, it is 128K, though this will be expanded.

(2) All datasets referenced must be on resident disk packs; no disks or tapes can be mounted.

(3) Since you are time-sliced and swapped, it can be very slow.

There are two important cases of foreground execution:

(A) The TEST command provides DDT-like debugging capability for foreground programs.

(B) The user's own program can interact with his terminal.

NOTE: It is not yet possible for a program, either in batch or foreground, to open direct Network connections.

Hours of Operation

Monday through Friday, 6 A.M. - Noon PDT (or 9 A.M. - 3 P.M. EDT). These hours will be extended before September 1, 1972.

Telnet Protocol

The document "USING TSO VIA ARPA NETWORK VIRTUAL TERMINAL", RFC #377, describes the use of a Telnet NVT to access TSO. There are some significant differences from using a real 2741 locally. RFC #377 describes the current server Telnet, complete with an annoying bug. A later version will include the following capabilities not presently available:

(a) "FULL DUPLEX", i.e., CCN echoing.

(b) Lower case input.

(c) The special character translation included in NETRJS users with Model 33 Teletypes. (see RFC #338).

(d) Optional specification of single CR or single LF as end-of-line indication.

(e) Hopefully, the input attention bug described in RFC #377 will be fixed.

Disk Space

TSO will automatically place datasets created in the foreground (e.g., by EDIT or ALLOC) on the proper resident disk pack. All TSO datasets are cataloged, and can be referenced by name alone (no volume or unit specification is necessary). For most purposes, you can pretend we have one big disk.

Dataset Names

The standard IBM version of TSO uses the TSO user-id as the highest index of each dataset name. At CCN, the two highest levels are the charge number and the user-id of the person who created the dataset. TSO has been modified accordingly.

Dataset Access Control

In general, under TSO a user can access for reading, writing, or execution any dataset named with the charge number with which he is logged on. In addition, he can rename or scratch any dataset with the logon charge number. There is no provision for public or read-only datasets at present.

Logging On

Most Network users will need only the simple form of LOGON:

logon <user-id>

EXAMPLE:		NOTES:
user:	logon uid	(Use your user-id)
TSO:	LOGON UID	(TSO repeats line for reasons of its own)
TSO:	ENTER PASSWORD	(TSO asks for password)
user:	xyz	
TSO:	UID LOGON IN PROGRESS AT 11:37:43 ON AUGUST 9, 1984	
TSO:	LOGON PROCEEDING	(It may take a while. This message will come every 30 seconds)
TSO:	WELCOME TO TSO. GOOD LUCK	
TSO:	READY	

User-id's are created in TSO with a blank password. To add or change your password, use the CHANGE command. If you have TSO access under more than one charge number, LOGON will prompt you for the charge number to be used for the session.

Where to Get Help

1. To obtain a list of TSO commands, enter: "help commands"

2. To get detailed information on syntax and function of a particular command, enter: "help <command name> <qualifier> "
   Type "help help" for details.

3. The SEND command may be useful for on-line help from PCN (Pete Nielsen) or WDD (Bill Drain), when they are signed on. You can find out if PCN or WDD is on by sending them a trial message.

   EXAMPLE:

   ```
   user:    send 'hello' user(wdd)

   TSO:     USER WDD NOT LOGGED ON

   TSO:     READY

   user:    send 'hello' user(pcn)

   TSO:     READY

   user:    send 'edit is acting funny' user(pcn)

   TSO:     READY
   ```

   Here "PCN" was logged on and got your message. You can, therefore, converse with him through SEND. The text in one SEND is limited to 115 characters.

4. You can also leave a message for wdd to receive when he logs on by typing: send '<message>' user(wdd) logon

5. To send a message to the CCN operator, enter simply: send '<message>'

6. You can call the CCN Telephone Consultant at (213) 825-7452, Monday through Friday during the hours 10-12 A.M. PDT and 1-4 P.M. (except 3-4 P.M. on Thursday). If the consultant does not know the answer, he/she will investigate and call you back.

7. You can call the general contact for Network user problems, Barbara Noble, at (213) 825-7438. Barbara is also one of the Telephone Consultants.

8. If all else fails, call Bill Drain, the CCN Systems Programmer in charge of TSO installation. His telephone is (213) 825-7474 (if no anwser, call my secretary at (213) 825-7518 and leave a message for Bill).

9. You can also send a message to someone at CCN by submitting the following pseudo-job through RJS ot TSO:

```
// <charge number>   JOB 'BIN=9906',MSGLASS=C
//*     <message>
//*
//*
//*
//*
etc.
```